UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,611	04/16/2004	Allen Hopper	MEMORY-0041	8056

24980 7590 10/05/2006

MILLEN, WHITE, ZELANO & BRANIGAN, PC
2200 CLARENDON BLVD
SUITE 1400
ARLINGTON, VA 22201

EXAMINER	
SOLOLA, TAOFIQ A	

ART UNIT	PAPER NUMBER
1626	

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/825,611	HOPPER ET AL.	
	Examiner	Art Unit	
	Taofiq A. Solola	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *15 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-78* is/are pending in the application.

4a) Of the above claim(s) *3,4,6-7,9-13,21,29-44 and 50-53* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *60-77* is/are rejected.

7)☐ Claim(s) *1,2,5,8,14-20,22-28,45-49,54-59 and 78* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claims 1-76 are pending in this application.

Claims 3-4, 6-7, 9-13, 21, 29-44, 50-53, 60-77 are drawn to non-elected inventions.

RESTRICTION REQUIREMENT

In response to the Restriction Requirement of 9/7/06, Applicant elects with traverse the invention of group III, compounds of formulae III and VI. Since claims 11-13, 21, 29-44, 50-53 are not drawn to the elected inventions, only claims 1-2, 5, 8, 14-20, 22-28, 45-49, 54-59, 78 are being examined. The traversal is on the basis that it is improper to restrict a single claim, citing the decisions in several case laws, and MPEP 803.02. This is not persuasive because neither MPEP 803.02 nor any of the cases cited by applicant contradicts the Restriction Requirement. As admitted by applicant, the Office may restrict when the inventions are independent and distinct. Also, the Office may restrict when it would be a burden on the Examiner if all the inventions are examine together. See Criteria for restriction between patentable distinct inventions, MPEP 803.I. In the instant case, claim 1 is drawn to several distinct compounds having different structural formulae and it would be a serious burden on the Examiner to examine all the inventions together. Formulae I-VIII, having different and distinct structures, together is not a Markush claim but rather each formula in and of itself constitutes a Markush of compounds. For example, see the formula in *Harnisch* quoted by applicant in response to the restriction. Nothing in MPEP 803.02 or the cited cases allows applicant to put independent and distinct inventions in a single claim so as to circumvent the intent of the law.

Applicant asserts that the Examiner by doing the restriction refuses to examine applicant's inventions. While applicant is free to put any spin on the Office action, a Restriction is still a restriction. Applicant further asserts that pyrazole ring is the core structure of the groups. While pyrazole is common to all the formulae, there is no evidence in the specification

that the asserted utilities of the instant inventions relate to the pyrazole ring alone. This is the second requirement of a proper Markush claim under MPEP 803.02. Even then, such assertion would be contrary to the well-known chemistry of the pyrazole ring.

The restriction is still deemed proper and therefore made FINAL.

Status of Claims

The Office has reviewed the claims and disclosure to determine the scope of the independent invention encompassing the elected compound (compounds which are so similar thereto as to be within the same inventive concept and reduction to practice). The scope of an independent invention encompasses all compounds within the scope of the claims, which fall into the same class and subclass as the elected compound, but may include additional compounds, which fall in related subclasses. Examination of the elected compound AND the entire scope of the invention encompassing the elected compound as defined by common classification results in the following: All the compounds of formulae III and VI are allowable.

As a result of the election and the corresponding scope of the invention identified herein, the subject matter of groups I-II, IV-V are withdrawn from further consideration by the Examiner, under 37 CFR § 1.142(b), as being drawn to a non-elected subject matter. The withdrawn compounds are patentably distinct from the examined invention as they differ in structure and element and would require a separate search. They belong in different classifications. In addition, a reference, which anticipates the examined invention, would not render obvious the non-examined subject matter.

Having found the compounds of formulae III and VI in condition for allowance and in accordance with the Rule of Rejoinder, claims 60-77 are rejoined and examined commensurate in scope with the allowable compounds.

Claim Rejections – 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 60-77 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 60-77 are not supported in the specification. No biological assays are performed to show interaction between PDE4 inhibition and the claimed diseases. A method of effecting PDE4 inhibition, and treat patients having diseases involving decreased cAMP levels are not practical utilities. They are deemed reach-through and are no longer allowable under the US patent practice. If applicant intends to treat the specific diseases listed in some of the method of use claims, such would make the reach-through claims substantial duplicates of these other claims. Under the US patent practice substantial claims are not patentable in the same application. By limiting the diseases to the specific ones listed in claims 65, 76-77 the rejection would be overcome.

Claims 60-77 are rejected under 35 U.S.C. 112, first paragraph, because the specification does not reasonably provide enablement for effecting PDE4 inhibition, or treat patients having diseases involving decreased cAMP levels. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with the claims.

"'In the context of determining whether sufficient "utility as a drug, medicant, and the like in human therapy" has been alleged, it is proper for the examiner to ask for substantiating evidence unless one with ordinary skill in the art would accept the [compounds and the utilities] as obviously correct." *In re Jolles*, 628 F.2d 1327, 1332 (Fed. Cir. 1980), citing *In re Novak*, 306 F.2d 924 (CCPA 1962); see 340 F.2d 974, 977-78 (CCPA 1965).

"A specification disclosure which contains a teaching of the manner and process of making and using the invention . . . must be taken as in compliance with the enabling requirement of the first paragraph of § 112 unless there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support." *In re Brana*, 51 F.3d 1560 (Fed. Cir. 1995), Id. At 1566, quoting *Marzocchi*, 439 F.2d 220, 223 (CCPA 1971); *Fiers v. Revel,* 984 F.2d 1164, 1171-72 (Fed. Cir. 1993), quoting *Marzocchi*, 439 F.2d at 223; see also *Armbruster*, 512 F.2d 676, 677 (CCPA 1975); *Knowlton*, 500 F.2d 566, 571 (CCPA 1974); *Bowen*, 492 F.2d 859 (CCPA 1974); *Hawkins*, 486 F.2d 569, 576 (CCPA 1973).

Where there is "no indication that one skilled in the art would accept without question [the instant compounds and method of use] and no evidence has been presented to demonstrate that the claimed products do have those effects *Novak*, 306 F.2d at 928, an applicant has failed to sufficiently demonstrate sufficient utility and therefore cannot establish enablement."' *In re Rasmusson,* 75 USPQ2d 1297 (CAFC 2005). The claimed utilities are not enabled without undue experimentation for the following reasons:

For rejection under 35 U.S.C. 112, first paragraph, the following factors must be considered. *In re Wands*, 8 USPQ2d 1400, 1404 (CAFC, 1988):

"The factors to be considered [in making an enablement rejection] have been summarized as a) the quantity of experimentation necessary, b) the amount of direction or guidance presented, c) the presence or absence of working examples, d) the nature of the

invention, e) the state of the prior art, f) the relative skill of those in that art, g) the predictability or unpredictability of the art, h) and the breadth of the claims".

In a review article by Thomas Martin, Drugs, (2001), Vol. 4(3), pages 312-338, several of the diseases listed in the claims are identified as relating to increased PDE4 but, the author disclosed that all of the drugs in the clinical trial so far had been stopped for lack of selective inhibition of PDE4 and other factors. Aging (claim 76) is a natural process and no compound is known for the treatment of aging. This utility must be deleted.

The predictability of the efficacy of any PDE4 inhibitor is therefore very suspect. In the instant invention, there is no evidence in the specification that established correlation between the disclosure and inhibition o PDE4 and the listed diseases. *See Ex parte Mass*, 9 USPQ2d 1746, 1987.

Clearly, not all diseases arising from increased PDE4 and/or decreased cAMP are known today. It is quite possible that a mutation in the gene responsible for the synthesis of PDE4 or cAMP protein could lead to increased or decreased production respectively. Therefore, to use the invention as claimed, one of ordinary skill in the art would have to perform experimentation in every instance to determine if a patient has abnormally high or low PDE4 and cAMP, as the case may be, before intervention. It must also be determined if the abnormal level is due to a genetic mutation or not. After treatment, assays must be performed on each patient to determine if treatment is successful, i.e. PDE4 or cAMP level is back to normal. Such would be undue burden.

MPEP 2164.01(a) states, "[a] conclusion of lack of enablement means that, based on the evidence regarding any of the above factors, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation. *In re Wright*, 999 F.2d 1557,1562, 27

USPQ2d 1510, 1513 (Fed. Cir. 1993)." That conclusion is clearly justified here. The purpose of 35 USC 112 is to obviate the need for this type of experimentation. *In re Borkowski,* 164 USPQ 642 (CCPA,1970). See also, *Univ. of Rochester v. G.D.Searle & Co,* 68 USPQ2d 1424 (DC WNY, 2003). See the Examiner's suggestion above.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 60-77 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For reasons set forth above the claims are indefinite.

Claim 65 improperly depends from 64 because, not all the diseases in the claim are due to memory impairment as in claim 64. Appropriate correction is required.

Objection

Claims 1-2, 55-59 are objected to for containing non-elected subject matter, and claims 5, 8, 14-20, 22-28, 45-49, 54, 78 are allowable if written as independent claims.

Telephone Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taofiq A. Solola, PhD. JD., whose telephone number is (571) 272-0709.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joseph McKane, can be reached on (571) 272-0699. The fax phone number for this Group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.

TAOFIQ SOLOLA
PRIMARY EXAMINER

Group 1626

September 26, 2006